Digital I/O Conversion Module

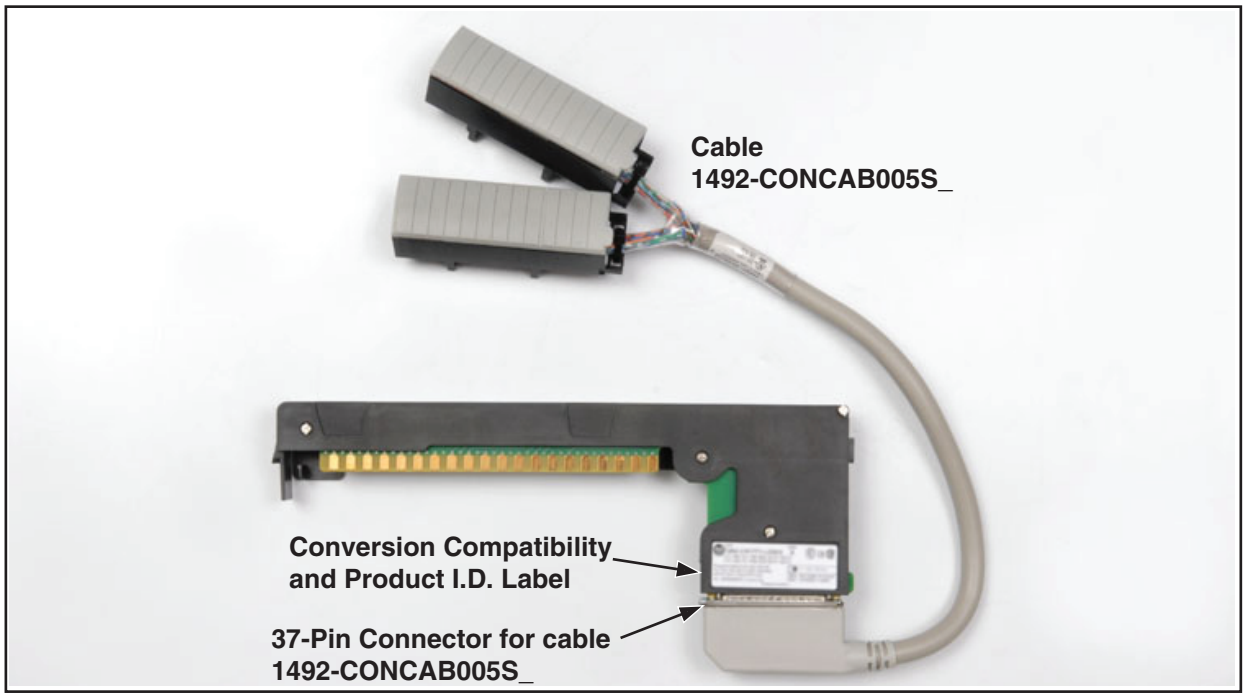
(Cat 1492-CM1771-LD013)

I. Description

This Digital I/O Conversion Module provides for the conversion of (1) 1771, 32 point I/O modules to be converted to (2) 1756, 16 point I/O module and consists of the following:

(1) 1771 Module (32pt) to (2) 1756 Modules (16pt)
(1) Conversion Module: 1492-CM1771-LD013
(1) Cable: 1492-CONCAB005S3 or 1492- CONCAB005S4 (Table 2)
(1) Conversion Mounting Assembly: 1492-MUA… (Table 1)

This conversion is accomplished without the removal of any field wires from the existing 1771 Swing Arm. The existing 1771 Swing Arm fits directly onto the edge connector of the 1492 Conversion Module. On one end of the 1492 Cable is (1) connector for the Conversion Module. On the other end are (2) Removable Terminal Blocks (RTBs) for the (2) 1756 I/O modules, as shown in the photo below. The I/O signals are routed through the 1492 Conversion Module and the 1492 Cable to the appropriate terminals on the (2) 1756 I/O modules per the Wiring Diagrams in Section V. As standard, the 1492 Cables are 0.5M long, but we also offer a 1.0M cable length. Refer to the footnotes in Table 2 for further details.



1492-CM1771-LD013 Conversion Module

WARNING

De-energize and lockout any and all power to all I/O field devices connected to the A-B 1771 I/O chassis, and the power to the 1771 I/O chassis itself. Ensure all power is de-energized and locked out to any device in the control cabinet where the conversion is to be performed. Ensure work is performed by qualified personnel.

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II. Installation

The 1492 Conversion Modules must be installed in a 1492 Conversion Mounting Assembly (see Table 1 below). A complete System Installation Manual ships with the 1492 Conversion Mounting Assembly.

1) Determine the quantity of each type of 1771 I/O modules used in the 1771 I/O Chassis to be converted.
2) Select the applicable 1492 Conversion Modules from Table 2, Section III.
3) Review the Max Slots for I/O and Chassis Width data from the Table 1 below.
4) Select a 1756 I/O Chassis which has enough I/O Slots.
NOTE: (2) I/O slots are required in the 1756 Chassis for conversions where (1) 1771 I/O module converts to (2) 1756 I/O modules.
5) Select the 1492 Conversion Mounting Assembly which has enough Conversion Module slots.
NOTE: (2) Conversion Module slots are required in the 1492 Conversion Mounting Assembly for conversions where (2) 1771 I/O module convert to (1) 1756 I/O modules.
NOTE: The 1492 Conversion Mounting Assembly has the same Height & Width foot-print as the 1771 Chassis and is designed to use the same mounting hardware. The combined Depth of the 1492 Conversion Mounting Assembly with the 1756 Chassis mounted on top is 10.25 inches (Controller w/key) or 10.0 inches (Controller w/o key). Dimension drawings are included in the System Installation Manual that ships with the 1492 Conversion Mounting Assembly.

Table 1: Bulletin 1771 to 1756 Chassis Conversion

1771 Chassis				1756 Chassis			Conversion Mounting Assembly		
Cat. No.	Max Slots for I/O	Chassis Width②		Cat. No.	Max Slots for I/O	Chassis Width	Cat. No.	Max Slots for Conversion Modules	Chassis Width
		without Power Supply	with Power Supply						
1771-A1B	4	9.01	12.61	1756-A4	3	10.35	1492-MUA1B-A4-A7	4	9.01
				1756-A7	6	14.49			
1771-A2B	8	14.01	17.61	1756-A7	6	14.49	1492-MUA2B-A7-A10	8	14.01
				1756-A10	9	19.02			
1771-A3B1①	12	19.01		1756-A10	9	19.02	1492-MUA3-A10-A13	12	19.01
				1756-A13	12	23.15			
1771-A4B	16	24.01		1756-A13	12	23.15	1492-MUA4-A13-A17	16	24.01
				1756-A17	16	29.06			

Foot Notes:

① 1771-A3B is not listed as it is used for 19 inch wide instrumentation panels.

② Notice that the 1756 Chassis Width sometimes exceeds the 1771 Chassis Width, with or without the Power Supply. The Cover-Plate of the 1492 Conversion Mounting Assembly allows the 1756 Chassis to be Left justified, Right justified or Centered. A complete System Installation Manual ships with the 1492 Conversion Mounting Assembly.

III. Compatibility

Table 2: Bulletin 1771 to 1756 Conversion Modules and Cables

1771 Digital I/O Module	1756 Digital I/O Module①	1492 Conversion Module	1492 Cable②
1771-OAN	1756-OA16 (Qty 2)	1492-CM1771-LD013	1492-CONCAB005S3
1771-OVN	1756-OV16E (Qty 2)	1492-CM1771-LD013	1492-CONCAB005S3
1771-OWNA	1756-OW16I (Qty 2)	1492-CM1771-LD013	1492-CONCAB005S4

Foot Notes:

①To understand any issues concerning I/O module compatibility, refer to the Installation Manuals for the specific 1771 and 1756 I/O modules involved. The (2) 1756 modules must be located directly next to each other in the 1756 chassis.

②The 3 numbers indicate the cable length of the 1492 Cable. Recommended cable length of 0.5M is shown. Alternative cable lengths are as follows:
1.0M = 1492-CONCAB010S3
1.0M = 1492-CONCAB010S4

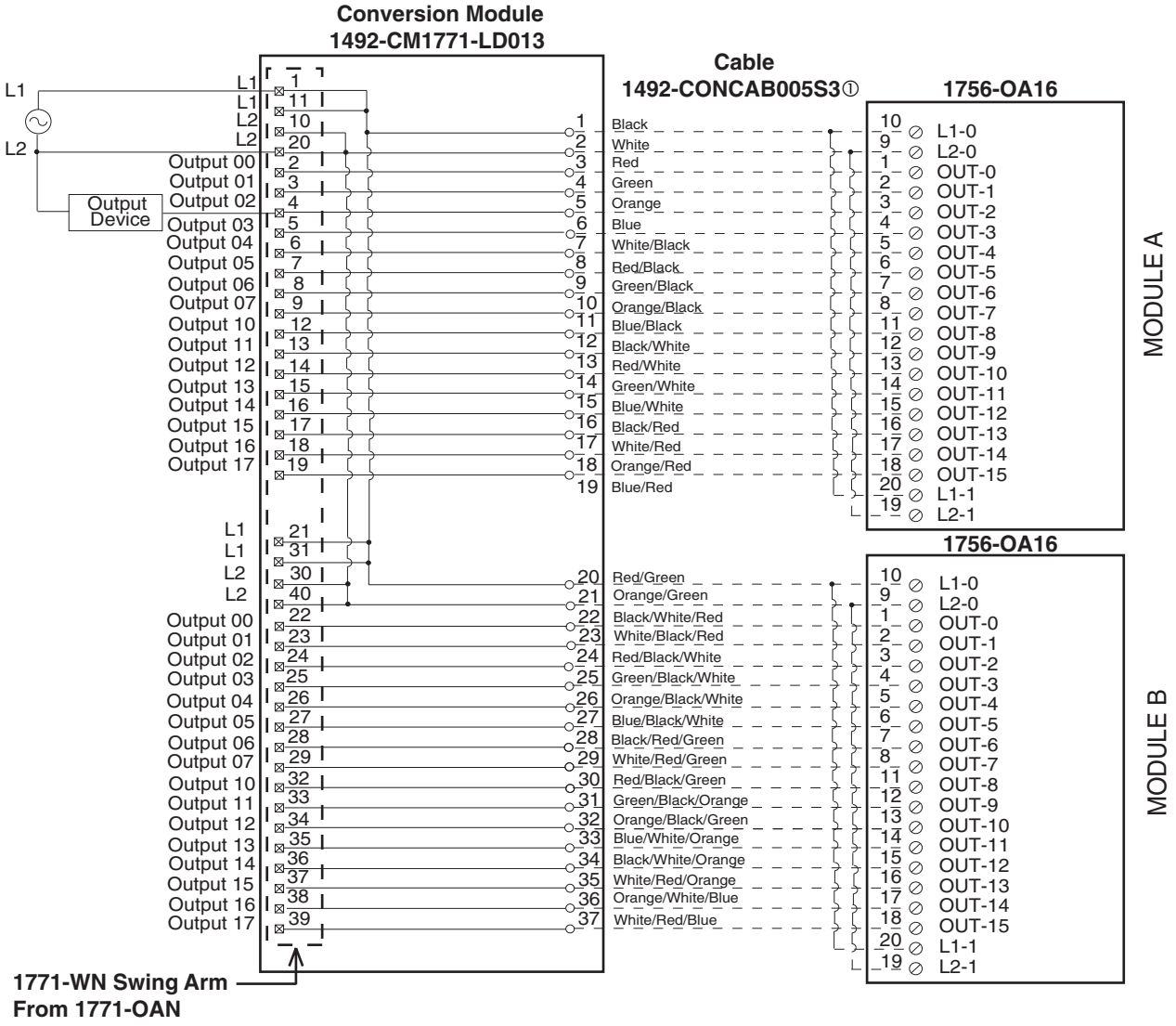
IV. Conversion Module Specifications

(Operating specifications are when installedin the Conversion System base / cover-plate assembly)

Specification	Value
Dimensions	11.81 in. (height) x 4.38 in. (depth) x 1.5 in. (width) 300 mm. (height) x 111.25 mm (depth) x 38.1 mm (width)
Approximate Shipping Weight	265.4 g (0.58 lbs) (includes carton)
Storage Temperature	-40 to +85°C (-40 to +185°F)
Operating Temperature	0 to 60°C (32 to 140°F)
Operating Humidity	5 to 95% at 60°C (non-condensing)
Shock Non operating Operating	 50g 30g
Operating Vibration	2g at 10 to 500Hz (Agrees with 1756 I/O module specifications)
Maximum Operating Voltage	240 Vac at 47 to 63Hz
Max. Module Operating Current Per Point: Per Module:	 2 Amps 4 Amps **NOTICE** Refer to the Wiring Diagram(s) for current limits for a specific configuration.
Agency Certifications	UL Classified: Under UL File Number E113724 CSA CE: compliant for all applicable directives
Pollution Degree	2
Environmental Rating	IP20

Conversion: 1771-OAN (1) to 1756-OA16 (2)

WARNING There are several key application considerations and system specifications (bottom of drawing) when using these components (conversion module, cable and input module). Read and understand these considerations before installation.



Conversion Module Installation and Application Considerations

① This Bul. 1492 cable consists of a cable wired to two 1756-OA16 RTB. Recommended cable lengths of 0.5M or 1.0M (005=0.5M, 010=1.0M). See table 2 for other lengths.

② The 1771-OAN module output current limits versus 1756-OA16 limits are as follows:

	1771-OAN	*1756-OA16 w/ 1492-CONCAB005S3*
a) Current/Point	1A	0.5A
b) Current/Module	8A (32 pts)	2A (16 pts)
c) Surge Current/Point	10A for 25ms	5A for 43ms

③ The 1771-OAN has 4 groups (allowing 4 separate power supplies). This module/cable combination ties all 4 groups from the 1771-OAN together. Field wiring modification must be made to accommodate this if mulitple supplies were used. If more than 1 supply was used, all but 1 of the power supplies must be removed.

④ The 1771-OAN did not allow connections for L2, however the 1756-OA16 requires an L2 connection for proper operation. The 1771-OAN did not use terminals 10, 20, 30, 40. These terminals have been reassigned for an L2 connection in this application. The installer must rewire L2 to one of these terminals.

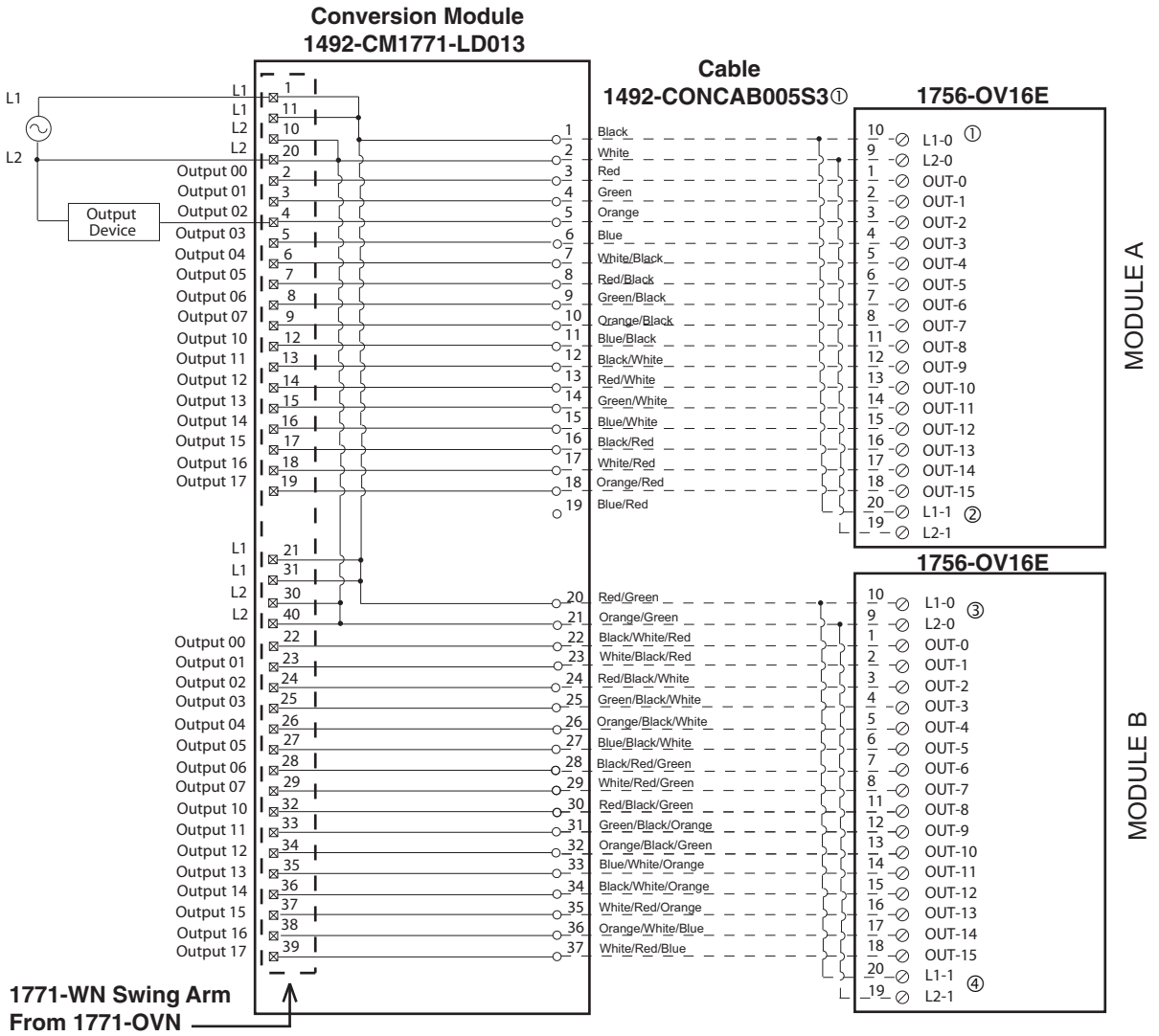
⑤ Refer to your 1771-OAN and 1756-OA16 Installation Manual wiring schematics and diagrams for more details. Ensure 1756 output module ratings are not exceeded.

⑥ This configuration uses two (2) 1756-OA16 output modules to replace a single 1771-OAN output module. This may require the use of a larger 1756 I/O chassis and conversion mounting assembly. Ensure there is sufficient panel space to allow for this possibility.

[Reference Doc: 41170-942 (Version 02)]

Conversion: 1771-OVN (1) to 1756-OV16E (2)

WARNING There are several key application considerations and system specifications (bottom of drawing) when using these components (conversion module, cable and input module). Read and understand these considerations before installation.



Conversion Module Installation and Application Considerations

① This Bul. 1492 cable consists of a cable wired to two 1756-OV16E RTB. Recommended cable lengths of 0.5M or 1.0M (005=0.5M, 010=1.0M). See table 2 for other lengths.

② The 1771-OVN module output current limits versus 1756-OV16E limits are as follows:

	1771-OVN	*1756-OV16E w/ 1492-CONCAB005S3*
a) Current/Point	0.5A	1A
b) Current/Module	8A (32 pts)	8A (16 pts)
c) Surge Current/Point	2A for 10ms	2A for 10ms

③ The 1771-OVN has 4 groups (allowing 4 separate power supplies). This module/cable combination ties all 4 groups from the 1771-OVN together. Field wiring modification must be made to accommodate this if mulitple supplies were used. If more than 1 supply was used, all but 1 of the power supplies must be removed.

④ The 1771-OVN did not allow connections for L2, however the 1756-OV16E requires an L2 connection for proper operation. The 1771-OVN did not use terminals 10, 20, 30, 40. These terminals have been reassigned for an L2 connection in this application. The installer must rewire L2 to one of these terminals.

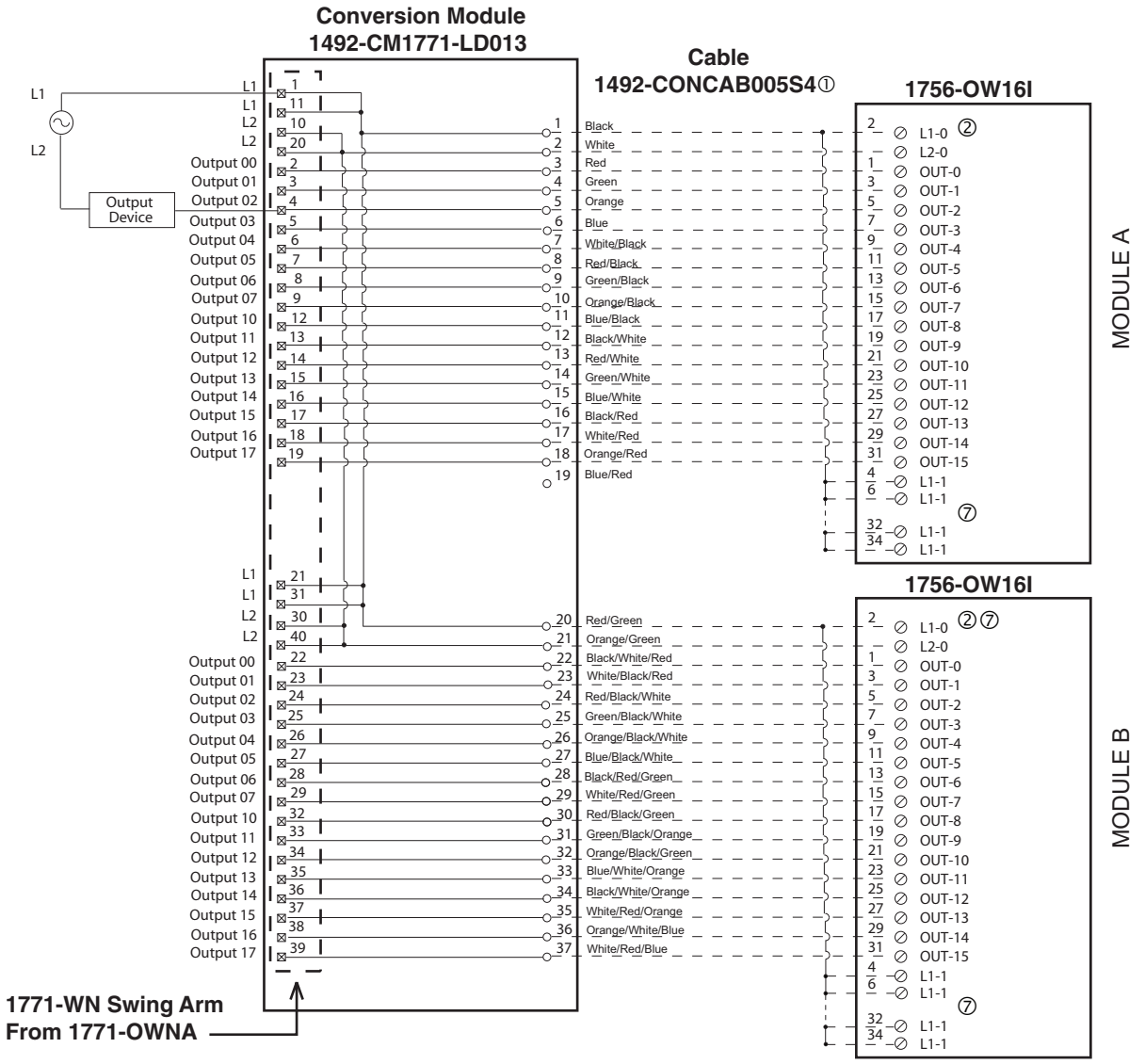
⑤ Refer to your 1771-OVN and 1756-OV16E Installation Manual wiring schematics and diagrams for more details. Ensure 1756 output module ratings are not exceeded.

⑥ This configuration uses two (2) 1756-OV16E output modules to replace a single 1771-OVN output module. This may require the use of a larger 1756 I/O chassis and conversion mounting assembly. Ensure there is sufficient panel space to allow for this possibility.

[Reference Doc: 41171-018 (Version 00)]

Conversion: 1771-OWNA (1) to 1756-OW16I (2)

WARNING There are several key application considerations and system specifications (bottom of drawing) when using these components (conversion module, cable and input module). Read and understand these considerations before installation.



Conversion Module Installation and Application Considerations

① This Bul. 1492 cable consists of a cable wired to two 1756-OW16I RTB. Recommended cable lengths of 0.5M or 1.0M (005=0.5M, 010=1.0M). See table 2 for other lengths.

② The 1771-OWNA module output current limits versus 1756-OW16I limits are as follows:

	1771-OWNA	*1756-OW16I w/ 1492-CONCAB005S4*
a) Current/Point	1A	0.5A
b) Current/Module	12A (32 pts)	2A (16 pts)

③ The 1771-OWNA has 4 groups (allowing 4 separate power supplies). This module/cable combination ties all 4 groups from the 1771-OWNA together. Field wiring modification must be made to accommodate this if mulitple supplies were used. If more than 1 supply was used, all but 1 of the power supplies must be removed.

④ The 1771-OWNA did not allow connections for L2, however the 1756-OW16I requires an L2 connection for proper operation. The 1771-OWNA did not use terminals 10, 20, 30, 40. These terminals have been reassigned for an L2 connection in this application. The installer must rewire L2 to one of these terminals.

⑤ Refer to your 1771-OWNA and 1756-OW16I Installation Manual wiring schematics and diagrams for more details. Ensure 1756 output module ratings are not exceeded.

⑥ This configuration uses two (2) 1756-OW16I output modules to replace a single 1771-OWNA output module. This may require the use of a larger 1756 I/O chassis and conversion mounting assembly. Ensure there is sufficient panel space to allow for this possibility.

⑦ 1756-OW16I output modules has all inputs jumpered together pins 2 through 34 even.

[Reference Doc: 41171-019 (Version 00)]

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